

A NEW SPECIES OF *PROTOSTELIS* FROM MEXICO (HYMENOPTERA: MEGACHILIDAE)

F. D. PARKER¹ AND T. L. GRISWOLD^{2,3}

²USDA, ARS, Bee Biology & Systematics Laboratory,
Utah State University,
Logan, Utah 84322-5310.

Abstract.—*Protostelis pardita*, NEW SPECIES, represents the first record of this rare parasitic genus from Mexico. The probable host is *Trachusa (Heteranthidium) catinula* (Brooks & Griswold). *Protostelis australis floridensis* (Mitchell), NEW SYNONYM, is synonymized with *P. australis* (Cresson). New records extend the range of *P. australis* from the east coast to Texas.

Key Words.—Insecta, *Protostelis*, *Trachusa*, host, distribution, synonymy

The Holarctic genus *Protostelis* Friese, which is represented in North America by species previously placed in *Heterostelis* Timberlake (Griswold & Michener 1988), is an anthidiine group that is known to parasitize *Trachusa* Panzer (Thorp 1966). In the Nearctic, *Protostelis* has been known only from the southern United States. A series of this rarely collected genus was recently obtained in central Mexico, greatly extending its range. These specimens prove to represent a new species that is here described.

Abbreviations.—The description uses T1, T2, etc., and S1, S2, etc., for the apparent dorsal and ventral segments of the metasoma respectively.

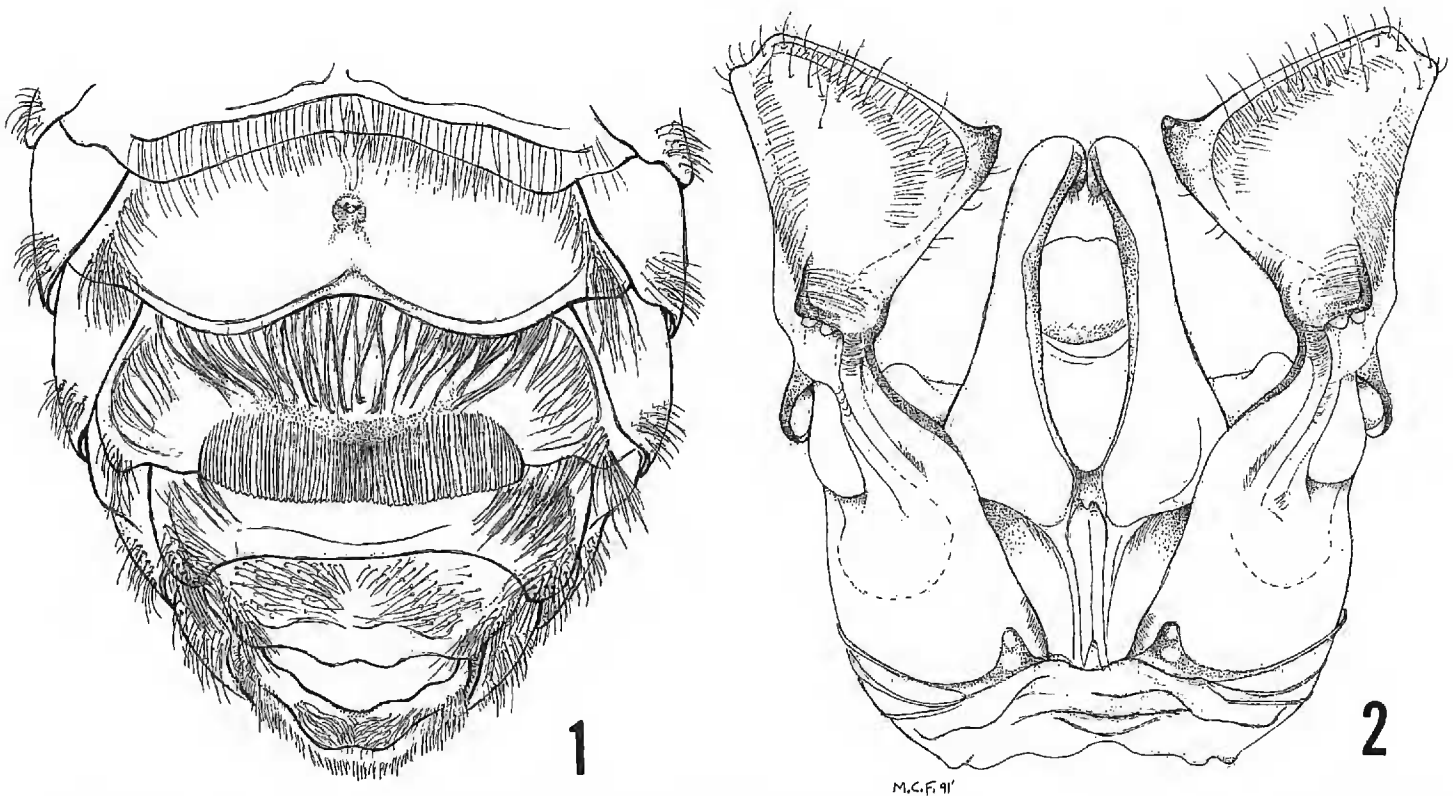
PROTOSTELIS PARDITA PARKER & GRISWOLD, NEW SPECIES (Figs. 1-2)

Types.—Holotype male. MEXICO. MORELOS: Cuernavaca, 8 Nov/6 Dec 1987, F. D. Parker. Holotype deposited at the Bee Biology and Systematics Laboratory collection in Logan, Utah. Paratypes: same data as holotype, 1 male, 10 females. Paratypes deposited at Logan and in the collections of The University of Kansas, Lawrence, and the Instituto de Biología, Universidad Nacional Autónoma de México, Mexico City.

Male.—Length 11 mm. Black except for yellow markings as follows: V-shaped mark on frons adjacent to eye, stripe along anterolateral and lateral margins of scutum, transverse mark on axilla, transverse stripes on T1-5, broadly interrupted on T1, progressively less so on succeeding segments. Wings dusky, especially around veins. Labrum evenly covered with dense, fine punctures; width of eye in lateral view approximately equal to genal width; frons without impunctate area adjacent to eye; ocelli reduced, diameter of median ocellus approximately equal to pedicel width, no greater than distance between it and lateral ocellus. Axilla rounded; scutellum rounded; mesopleuron with anterior face closely punctate, angle between anterior and lateral surface sharply carinate on dorsal half; apical tibial projections on fore-, mid-leg spine-like, subbasal, projections on hind tibia reduced to enlarged carina; hind basitarsus with distinct dorsal groove. Gradular crease on T1-6 deep, hooded more so laterally;

¹ USDA, ARS, Screwworm Research Laboratory, American Embassy, Costa Rica, PSC 20 Box 342, APO AA 34020.

³ Author for reprint requests.



Figures 1–2. *Protostelis pardita*. Figure 1. Male abdomen in ventral view. Figure 2. Male genitalia, dorsal view.

apical margins of T1–5 with hyaline lamellae; pseudomargin of T7 carinate, shallowly emarginate medially (Fig. 1); S1 with high, shallowly emarginate, preapical carina; S2 with low preapical carina; margin broadly, shallowly excised medially; S3 apical fringe long occupying full width of segment; S4 with stout comb extending over apical margin for nearly entire width of sternum, teeth of comb thick, black, area behind comb depressed with patch of stiff setae at base of sternum hidden beneath fringe of S3, tufts of long hair laterad of comb (Fig. 1); S6 with broad U-shaped excision; apical margin of S8 widely, very shallowly emarginate with sparse fringe of long hair; genitalia as in Fig. 2.

Female.—Length 10–12 mm. Markings as in male. Mandible tridentate, middle tooth nearer to lower than upper; clypeus finely punctate; ocelli as in male; thoracic structure as in male; apical tibial projections larger than male (differing from *Stelis* in that they are lop-sided and off-center). T1–5 with posterior one-third finely punctate; T6 with irregular median longitudinal preapical carina faint, not denticulate laterally; apical one-half of S6 flattened in lateral view, apical margin narrowly rounded, almost angulate.

Diagnosis.—The male of *P. pardita* NEW SPECIES is easily distinguished from all other *Protostelis* by the very wide apical comb on S4, which occupies more than two-thirds the width of the segment as opposed to one-third or less in other species. Females run to *P. australis* (Cresson) in Thorp's (1966) key. They are easily separated from *P. australis* by the rounded rather than truncate posterior margin of the scutellum. Further, females have larger ocelli, the preapical carina of T6 is not denticulate laterally, and S6 is narrowly rounded, almost angulate.

Biology.—The presumed host bee, *Trachusa* (*Heteranthidium*) *catinula* Brooks & Griswold, was nesting in a low bank near a creek in the city of Cuernavaca, Mexico. At least 20 nests were found during a five-week period. Females of this host were seen carrying balls of resin and the usual pollen loads into the nest entrances. Females of *Protostelis pardita* were observed entering and leaving these same nest entrances. Males of both genera were found hovering near these same holes. No attempt was made to excavate nests of this *Trachusa*.

Material Examined.—See types.

PROTOSTELIS AUSTRALIS (CRESSON)

Heterostelis australis floridensis Mitchell 1962, N. Carol. Agr. Exp. Sta. Tech. Bull. 152: 33. NEW SYNONYMY.

Discussion.—As noted by Thorp (1966), *P. a. floridensis* differs from typical *P. australis* only in its markings. Both forms are found in Alachua County, Florida. As such, it seems inappropriate to recognize this color morph. Females from Salmon, Texas greatly extend the range of this species to the west.

Material Examined.—TEXAS. ANDERSON Co.: Salmon, 14–22 Jul/22 Jul–2 Aug 1974.

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We take pleasure in naming *P. pardita* after the Pardita family, who assisted F. Parker in innumerable ways during his stay in Cuernavaca.

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